ABSTRACT OF THE DISCLOSURE

Methods of activating, enriching, manipulating, and producing macromolecular materials comprising highly conductive multielectron threads are provided together with superior such materials and devices comprising them. Activation methods such as doping the material with charged or uncharged dopants, using electrolysis techniques, and charging the material may be combined with various enrichment techniques that take advantage of reduced viscosity levels such as filtering and fractionation to obtain very high yields when producing conductive films, wires, and diamagnetic materials. Also disclosed are methods for electrically joining conductors and various devices comprising highly conductive macromolecular materials.